

A NEW SPECIES OF CRANIOTUS (COLEOPTERA:
TENEBRIONIDAE)

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Within the last few years some intensive collecting in the southwestern part of the Great Basin, Arizona and northern Mexico has resulted in the accumulation of a large and interesting series of tenebrionid species. This study has to do with the description of the second known species of the rare genus *Craniotus*.

In 1851 John L. Leconte described a new genus and species² of Tentyriinae from a unique which was collected on the Colorado Desert of California. Leconte evidently proposed the name *Craniotus* because of the "horn-like" projections at the sides of the head anterior to the eyes. Other characteristics of the genus are: Clypeus round, shield shaped, intermediate lobe of the epistoma truncate, jaws bifid at tip; eyes almost transverse; antennae slender, third joint much elongated, the eleventh segment small and attached to the apex of the tenth which is much broadened; body convex, covered with fine setae; prothorax slender and round; sides wide without margins; scutellum elongate; epipleurae narrow and evident on the posterior part of the elytra; metathoracic coxae widely separated; femora and tibiae long, slender; tarsi with long hairs above and stiff spines beneath.

George Horn³ observed that this "genus may be readily distinguished from all others of the tribe (Gnathosiini) by the very prominent triangular lateral lobes of the head. The epipleurae and the elytra are connate without trace of suture."

Col. Casey believed this singular genus was most closely allied to the old world *Adesmiini*; also that it resembles the American *Edrotes* in many respects. He comments as follows: "In *Adesmia* the eyes are much more finely faceted the head and mandibles are almost similar, except that the front is not dilated at the sides and the mentum not emarginate at base, and the eleventh antennal joint is free, though very small. The coxae and metasternum are almost exactly as in *Craniotus*, but the posterior are still more widely separated, almost globular in form and approach the sides of the body very closely."

Specimens of *Adesmia* have not been seen by the writer, but several species of the genera *Edrotes* and *Triorophus* have been studied and comparisons made with *Craniotus*. There are some external body resemblances of *Craniotus* with the above mentioned genera, but there is no agreement in the genitalia structures. If

1. Contribution No. 183 from the Dept. of Zoology and Entomology, Brigham Young University, Provo, Utah. Paratype specimens, of this study, were collected by field workers of the Brigham Young University under the Atomic Energy Commission Contract AT (11-1) 786.

2. Leconte, John L., Description of new species of Coleoptera from California, *Annals Lye. N.H.N.Y.* Vol. V, pp. 125-216, pl. 1851.

3. Horn, George H., Revision of the Tenebrionidae of America, North of Mexico. *Trans. Am. Phil. Society.* Vol. XIV, Pt. II.

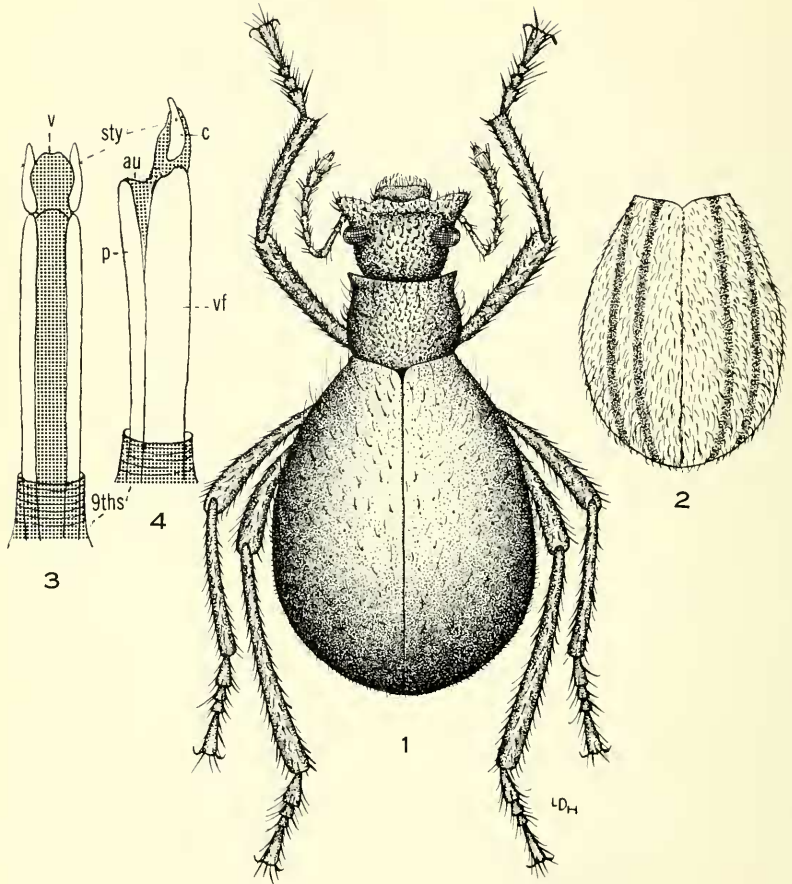


Fig. 1 Dorsal view of the female of *C. blaisdelli*. Fig. 2 Elytral pattern of *C. pubescens*. Fig. 3 Ventral view of genitalia of *C. blaisdelli*. Fig. 4 Lateral view of *C. blaisdelli*.

other characters than those used by early workers are considered in making decisions as to relationships of genera, tribes and subfamilies, we will need to abandon Col. Casey's conclusions in the light of present morphological findings. The writer has long contended, 1927⁴, that more attention must be paid to the internal as well as the external morphology of the beetles. Blaisdell's work on the genitalia of the Tenebrionidae has added materially to the value of his studies of this family. In 1934⁵ he commented as follows on the necessity of shifting *Craniotus* to the subfamily Asidinae: "The study of the genitalia of the Tenebrionidae indicates very definitely

4. Tanner, Vasco M. 1927., A Preliminary Study of the Genitalia of Female Coleoptera. Trans. Am. Ento. Soc. Vol. LIII, 5-50. 14 plates.

5. Frank E. Blaisdell, Sr., 1934. Studies in the Genus *Auchmobius* (Coleoptera: Tenebrionidae). Trans. Am. Ento. Soc. LX, 223-264. Plates XVI, XVII, and XVIII.

that changes should be made in the taxonomic sequences of subfamilies and tribes. . . . The Craniotini possess genitalia wholly Asidine in character and should precede the Asidini in our lists." Again Blaisdell, 1939⁶, contends that: "The Asidinae possess distinctive primary sexual characters, the typical characters are described above and figured in Plate V. The species *Craniotus pubescens* Leconte heretofore placed after Edratini and before Zopherini in our lists, belongs to the subfamily Asidinae, Tribe Craniotini. Its genital characters being distinctly of the type found in that subfamily. The author has reported this fact in a previous publication."

Not only do species of *Craniotus* agree in general with the female genitalia structures of the Asidinae, but there is also an agreement in the type of antennae, mentum, eyes, and position of the closed coxal cavities. I am, therefore, of the opinion that in this instance the female genitalia (fig. 3-4) of *C. blaisdelli* as well as external body characters are more closely related to Asidini than Edrotini and that *Craniotus* and species should be placed in the tribe Craniotini in the subfamily Asidinae.

Craniotus blaisdelli Tanner, n. sp.

Figs. 1-4

FORM robust, two times as long as wide. Color deep black, luster dull to slightly shining.

HEAD small in size, projections at the sides of the head anterior to the eyes extend beyond one third the width of the head; frons depressed between the projections and the clypeal area; clypeus slightly emarginate; epistoma punctures discrete, small, irregular, each bearing a short black seta. Eyes transverse, not emarginate, larger dorsally. Antennae slender, third joint as long as the fourth and fifth combined, in length not extending to the pronotal base; the eleventh segment small, attached to apex of tenth.

PRONOTUM about one-sixth wider than long, sides without margins, disk convex, anterior angles acute, *surface* with irregularly placed papilliform structure, each bearing a decumbent brownish colored seta. Base broadly truncate, scutellum elongate.

ELYTRA one third longer than wide, base equal to that of the pronotum; humeri obsolete, sides broadly arcuate, disk moderately convex; arcuately precipitous at apex; surface devoid of striae; small punctures from which arise short stiff black setae; luster dull to more or less shining, connate, the suture, however, is distinct. Epipleurae without a trace of a suture.

LEGS long, especially the tibiae of the metathoracic legs; coxa closed and widely separated. First and second abdominal sternites about equal in width, punctured and with black short erect setae.

GENITALIA of the female, figs. 3-4, of the elongate type, rather

6. Frank E. Blaisdell, Sr., 1939. Studies in the Relationships of the Subfamilies and Tribes of the Tenebrionidae. Based on the Primary Genital Characters also descriptions of new species. (Coleoptera.) Trans. Am. Ento. Soc. LXV, 43-60, Plates IV and V.

heavily sclerotized valvifer; coxite small, black, with obscure stylus; ninth segment membranous, acting as a sheath for the retracted genital organ. The female genitalia of *Pelecyphorus semilaevis* is an elongate type similar in structure to *C. blaisdelli*.

MEASUREMENTS: length 10-13 mm; width 5-6 mm.

TYPE: Female, collected in Inyo Mountains, California, April 18, 1949 by Owen Bryant.

PARATYPES: 1-♀, collected by field workers of the Brigham Young University, Nevada test site Ecology Project, 12.5 miles N.N.E. of Mercury, Nevada, in the *Larrea-Franseria* Community, Nov. 1961; 1-♂ collected 9.3 miles west of Mercury in the *Larrea-Franseria* Community, Dec. 1961; 1-♀ collected 32.5 miles north of Mercury in a *Coleogyne* Community, Nov. 1960.

Type and paratypes are in the author's collection at Brigham Young University. One paratype deposited in the entomological collection of the California Academy of Sciences at San Francisco.

I am pleased to dedicate this species to the memory of Dr. Frank E. Blaisdell, Sr., one of this country's most renown authorities on the Tenebrionidae.

REMARK:—*Craniotus blaisdelli* is a larger species than *pubescens*. The elytral covering of *blaisdelli* consists of sparse, short black setae, devoid of striae and with a more or less dull luster yet with a shining surface. The elytra of *pubescens*, fig. 2, has three rather distinct lines or areas on either side of the suture which are covered with brownish decumbent thickly placed setae. These areas are separated by small spaces devoid of setae. The head and thorax of *pubescens* is also thickly covered with brownish decumbent setae. The prothorax is more round and convex with numerous deep punctures.